

A2

(a) concentrating the microorganisms [according to the method of claim 11] which comprises the steps of:

- (i) adding a sample containing said microorganisms to an ultracentrifuge tube and
- (ii) centrifuging said sample in said tube to concentrate said microorganisms, said ultracentrifuge tube comprising an upper region, a middle region and a lower region wherein an inner diameter of said upper region is larger than an inner diameter of said middle region and wherein an inner diameter of said middle region is larger than an inner diameter of said lower region; and

(b) analyzing the amount of DNA or RNA by flow fluorescence analysis or epifluorescence analysis. --

A3

-- 44 (amended). A method of determining the mass of a microorganism genome of a microorganism in a biological sample wherein said method comprises the steps of:

(a) concentrating said microorganism [by the method of claim 11] which comprises the steps of:

- (i) adding a sample containing said microorganism to an ultracentrifuge tube and
- (ii) centrifuging said sample in said tube to concentrate said microorganism, said ultracentrifuge tube comprising an upper region, a middle region and a lower region wherein an inner diameter of said upper region is larger than an inner diameter of said middle region and wherein an inner diameter of said middle region is larger than an inner diameter of said lower region;

(b) staining said microorganism genome;

(c) purifying said microorganism genome; and

(d) subjecting said microorganism genome to fluorescence flow cytometry, whereby the mass of the microorganism genome is determined. --

A4

-- 82 (amended). A method of determining the size of a genome of a microorganism in a biological sample, wherein said method comprises the steps of:

(a) concentrating said microorganism [by the method of claim 11, to produce concentrated microorganism] which comprises the steps of:

- (i) adding a sample containing said microorganism to an ultracentrifuge tube and

(ii) centrifuging said sample in said tube to concentrate said microorganism, said ultracentrifuge tube comprising an upper region, a middle region and a lower region wherein an inner diameter of said upper region is larger than an inner diameter of said middle region and wherein an inner diameter of said middle region is larger than an inner diameter of said lower region;

- (b) extracting said genome from the concentrated microorganism to produce extracted nucleic acid;
- (c) immobilizing said extracted nucleic acid on a solid support;
- (d) staining said extracted nucleic acid; [and]
- (e) electronically imaging said extracted and stained nucleic acid on said solid support using an epifluorescence microscope, and
- (f) measuring the length of individual nucleic acid molecules. --

-- 83 (amended). A method for determining a restriction enzyme map of a microorganism, wherein said method comprises the steps of:

- (a) concentrating said microorganism [by the method of claim 11, to produce concentrated microorganism] which comprises the steps of:

(i) adding a sample containing said microorganism to an ultracentrifuge tube and
(ii) centrifuging said sample in said tube to concentrate said microorganism, said ultracentrifuge tube comprising an upper region, a middle region and a lower region wherein an inner diameter of said upper region is larger than an inner diameter of said middle region and wherein an inner diameter of said middle region is larger than an inner diameter of said lower region;

- (b) extracting said genome from said concentrated microorganism to produce extracted nucleic acid;
- (c) staining said extracted nucleic acid;
- (d) immobilizing said extracted nucleic acid on a solid support to produce immobilized nucleic acid;
- (e) treating said immobilized nucleic acid with one or more restriction enzymes; and
- (f) determining the number of fragments of nucleic acid and the lengths of nucleic acid fragments produced. --